

# ***Space Operations Institute at Capitol College***

A consortium of:

NASA

Education

Industry

# ***Educational Goal***

Build a framework of programs that ...

***provide the expertise and knowledge necessary  
to support NASA's space operations  
programs and needs***

in areas including ...

***Flight and ground system support for  
space operations***

***The operation, maintenance and upgrade  
of satellite systems.***

# ***Operational Goal***

Provide support for education that ...

***prepares students for careers in space mission operations and provides continuing education for current workers.***

# ***Sponsorship***

- ◆ NASA  
Three year grant (August 2002)
- ◆ CSC, Capitol  
Scholarships & internships
- ◆ ai solutions, Analytical Graphics  
FreeFlyer, STK Toolkit
- ◆ Honeywell Technology Solutions, Lockheed Martin, SGT  
Mentoring, student training, technical support

# *Some Educational Consortium Members*

- ◆ Maryland State Department of Education
- ◆ Baltimore City, Montgomery County, and Prince George's County Departments of Education
- ◆ Project Lead the Way
- ◆ High Schools, including  
Bowie, Meade, Serverna Park,  
Laurel, High Point
- ◆ Community and Other Colleges  
Prince George's, Montgomery, Goucher

# *Initial Team of Students*

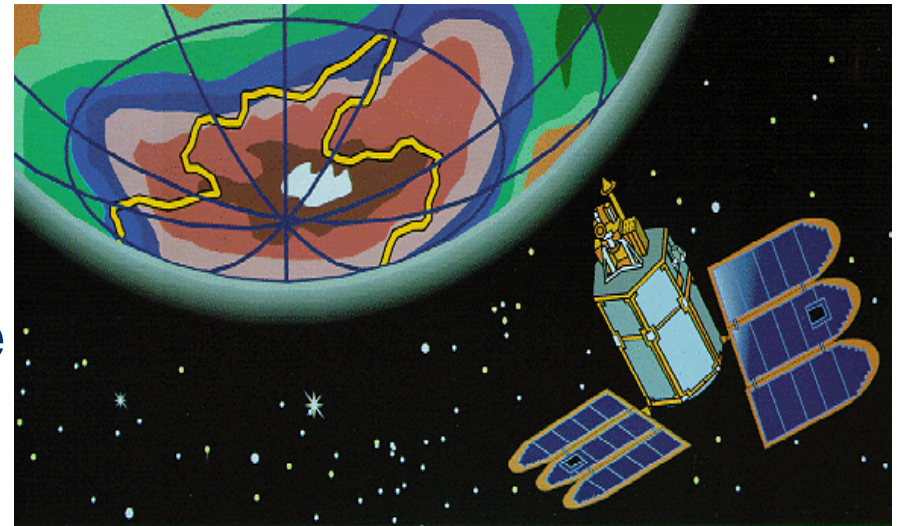


First meeting at Capitol College  
August 2002

# ***Current Missions –1***

## **TOMS/EP**

- ◆ Flight Ops  
(3 Students)
- ◆ Ground System Upgrade  
(4 Students)



Flight ops students certified as: Mission planners, and as Command and Control Operators

# ***Current Missions – 2***

## **UARS**

- ◆ Flight Operations  
(2 Students)



Students certified as a UARS Ground Controller



# ***Current Missions – 3***

## **ERBS**

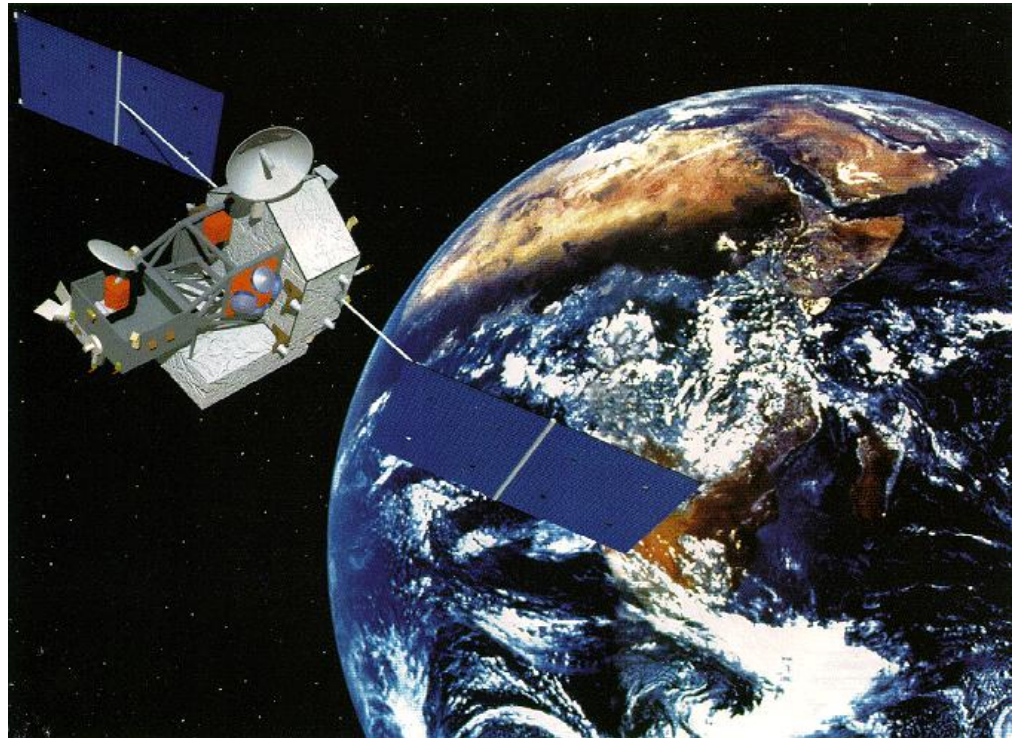
- ◆ Flight Operations  
(3 students)



# ***Current Missions - 4***

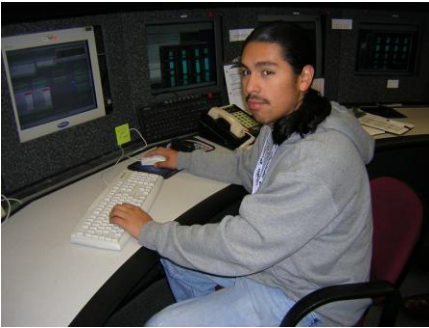
## **TRMM**

- ◆ Flight Operations  
(2 Students)



# ***Some SOL Students***

## ***Flight Operations***



**Michael Cabrera, PGCC**



**Angela Gibson, PGCC**



**Ken Sterling, CC**



**Charles Hodanics, CC**



**Si Tran, CC**

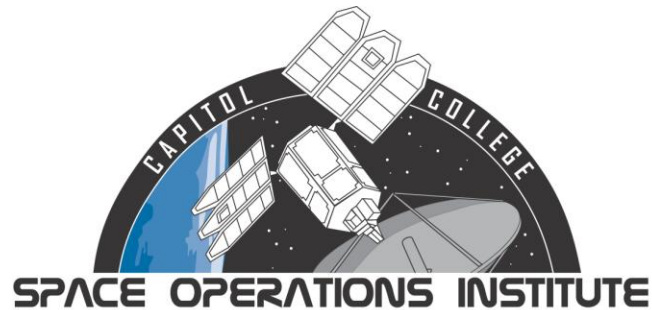


# Some SOI Students

## *TOMS Ground System Upgrade*



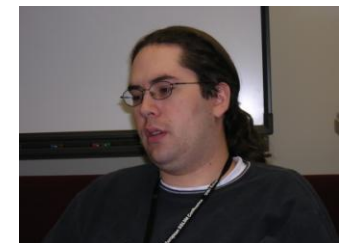
**Peter Fetterer**



**Denaire Gilmore**



**Anthony Nguyen**



**Noah Williams**

# *Capitol College*

- ◆ Founded - 1927
- ◆ Private, Non-Sectarian
- ◆ Accredited
- ◆ B.S., M.S., and MBA degrees





*Early Days*



*1932: Residence Division, Washington DC*



# 1982: *Laurel Campus*







***1982: Laurel Campus - Dormitories***



# ***Delivery Formats***

Traditional  
Mostly Undergraduate

and

Online  
Mostly Graduate



# ***Engineering Degrees***

## **B.S**

- ◆ Astronautical
- ◆ Computer
- ◆ Electrical
- ◆ Software

## **M.S**

- ◆ Electrical

# ***Computer Degrees***

## **B.S**

- ◆ Computer Science
- ◆ Network Security
- ◆ Software & Internet Applications

## **Graduate**

- ◆ Computer Science
- ◆ Information Architecture
- ◆ Network Security

Capitol is an NSA Center of Excellence for Information Assurance

# ***Business & Management Degrees***

## **B.S**

- ◆ Mgmt of Information Technology
- ◆ Mgmt of Telecom. Systems
- ◆ Business Administration (Fall 04)

## **M.S**

- ◆ MBA
- ◆ Info. & Telecomm. Systems Mgmt

# ***Certificates***

- ◆ Capitol offers a variety of certificates
- ◆ All certificates are approved by the State of Maryland
- ◆ Each certificate consists of 4 courses and carries 12 college credits.
- ◆ Credit obtained by completing a certificate may be applied towards a college degree.

# ***Undergraduate Certificates***

- ◆ Space Missions and Operations Specialist  
(New - State approval pending)
- ◆ Object-Oriented Programming
- ◆ Web Programming
- ◆ Web Development
- ◆ Computer & Network Security
- ◆ ... See more online  
<http://www.capitol-college.edu>

# ***Graduate Certificates***

- ◆ Client-Server and Wireless Devices
- ◆ Information Technology
- ◆ Network Protection
- ◆ Security Management
- ◆ ... See more online  
<http://www.capitol-college.edu>

# ***Space Missions and Operations Specialist***

- ◆ 12-Credits
- ◆ Undergraduate certificate
- ◆ Counts towards engineering degrees
- ◆ Courses
  - AE150 Introduction to Space
  - AE311 Spacecraft Systems
  - AE351 Dynamics of Aerospace systems
  - AE361 Remote Sensing



# ***Astronautical Engineering***

## ***(The core of the SOL's Educational Mission)***

- ◆ 132 Credit hours
- ◆ 33 AE credits
- ◆ 30 EE credits
- ◆ 35 Science and Math Credits
- ◆ 34 Other

# ***Scholarships & Financial Aid*** ***for students attending Capitol College***

- ◆ Available to full-time and part-time students
- ◆ Scholarships and grants range from \$400 to full tuition
- ◆ SOI provides scholarships for students in the program
- ◆ SOI provides internships for juniors and seniors in the program
- ◆ SOI provides work opportunities for students who need extra income.

NOTE: SOI internships and work opportunities available only to U.S. citizens.

# ***Astronautical Engineering Courses***

- ◆ AE-150 Introduction to Space
- ◆ AE-311 Spacecraft Systems
- ◆ AE-351 Dynamics of Aerospace Systems
- ◆ AE-361 Remote Sensing
- ◆ AE-401 Computational Dynamics
- ◆ AE-451 Propulsion Systems
- ◆ AE-458 Capstone Project in Space Science



# Contact Information



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